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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,983	06/04/2001	Satoshi Ichikawa	208526US-2S CONT	3486

22850 7590 01/30/2004

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EXAMINER

SUMMONS, BARBARA

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,983

Applicant(s)

ICHIKAWA ET AL.

Examiner

Barbara Summons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-6 is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Maintained Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 2, and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kajihara et al. U.S. 5,559,483 (of record) taken in conjunction with Dai et al. U.S. 5,896,071 (of record) for reasons of record (see paragraph 3 of the Office action mailed 5/30/03) repeated below for Applicants' convenience.

Fig. 4 of Kajihara et al. discloses a surface acoustic wave (SAW) device comprising: a plurality of transducers (25, 27, 33, 35), wherein at least two of the transducers (25 and 33, and 27 and 35) are connected in parallel to each other and the resonant modes of the transducers are coupled (see Figs. 5-8). Regarding claims 2 and 7, each of the transducers (25, 27 and 33, 35) has a triple-mode resonant frequency

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characteristic (see Figs. 5 and 6 and the Title), and they are formed on the same piezoelectric substrate 19 (Fig. 4).

However, Kajihara et al. does not show the transducers including a plurality of regions whose SAW propagation directions are opposite.

Fig. 4 of Dai et al. shows that it is known to form a triple-mode SAW filter with resonant single phase unidirectional transducers (RSPUDTs) 32 and 34, each of the RSPUDTs being a region having a pair of comb electrodes whose SAW propagation directions are opposite to each other, as best seen in Fig. 7. The triple-mode resonance is provided by the resonance cavities C1, C2 and C3 (see also col. 3, lines 59-66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the SAW filter device of Kajihara et al. (Fig. 4) by having replaced its triple-mode filters with triple-mode filters using RSPUDTs as taught, for example, by Dai et al. (Fig. 4), because such an obvious modification would have been the mere substitution of art recognized equivalent alternate triple-mode filters.

It would have been equally obvious to one of ordinary skill in the art the time the invention was made to have modified the triple-mode RSPUDT SAW filter of Dai et al. (Fig. 4) by having coupled two of them in parallel so that their resonant modes would couple as taught, for example, by Kajihara et al. (Figs. 4-8), because such an obvious modification would have provided the advantageous benefits of a wide passband, excellent passband filter characteristics, excellent filter characteristics in a rejection

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band near the passband, and in the rejection band as a whole as suggested by Kajihara et al. (see col. 2, lines 6-21).

Response to Arguments

3. Applicants' arguments filed 10/30/03 have been fully considered but they deemed are not persuasive.

Applicants first discuss their invention. Then Applicants turn to the prior art and argue that "Kajihara does not teach or suggest a surface acoustic wave device using an RSPUDT structure" (see page 3, lines 11-15 of the remarks received 10/30/03). This argument is not persuasive because the claim was rejected under § 103, and the Examiner has used another reference to show the RSPUDT structure would have been obvious.

Applicants next argue that in Kajihara "only five resonant peaks are used as a total filter...contrary to the device of Claim 1 in which...six resonant modes are used as a total filter" (see page 3, the last full paragraph of the remarks). This argument is not persuasive because it is not commensurate with the scope of claim 1. Claim 1 only requires that "resonant modes of the transducers are coupled" (see the last line of the claim), and Kajihara does couple three resonant modes from one filter's transducers and two from the other for five resonant peaks as admitted by Applicants' arguments. That is, Claim 1 as it now reads, does not require that all six resonant modes be coupled.

Applicants next argue that Kajihara uses a grating reflector to generate a resonance response, which is different from the invention (see page 4, first paragraph of

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the remarks). This argument is not persuasive because it is not commensurate with the scope of the claims. That is, how the resonance responses are generated is not a claimed limitation.

Applicants finally argue that "Dai does not teach or suggest any structure for coupling resonance modes" (see page 4, second paragraph of the remarks). This argument is not persuasive because the reference to Kajihara is used for this teaching.

In summary, Applicants appear to have argued the references individually. If one of the references had shown all of the inventive features, the Examiner would have made a rejection under § 102 rather than the rejection under § 103. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Allowable Subject Matter

4. Claims 3-6 are allowable over the prior art of record.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (703) 308-4947. The examiner can normally be reached on M-Th, M-Fr.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (703) 308-4909. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in cursive script that reads "Barbara Summons". The signature is written in black ink and is positioned above the printed name and title.

bs
January 26, 2004

**BARBARA SUMMONS
PRIMARY EXAMINER**